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Recent Trends and Issues In Cloud Computing

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Abstract

Cloud computing is the improvement of parallel computing, distributed computing, grid computing and virtualization technologies which describe the nature of a current era. Cloud computing is an rising representation of business computing. In this paper, we intend to point out the recent trend issues in cloud computing.

Cloud Computing has provided Big Data with a way to store and retrieve an immense amount of information. It has evolved from personal cloud storage to entire organizations moving all of their data to the cloud. Although the Cloud has brought so many benefits, larger organizations are still hesitant to transfer their information to the cloud, and that is mainly because of security concerns. But, even with the security concerns, the adoption of Cloud services continues to rise due to the improved usage of cloud-based services including, mobility, increased efficiency, cost-effectiveness, streamlined collaboration, and speed of connectivity.

Keywords – cloud computing, trend in cloud computing, issues.

INTRODUCTION

The term "cloud" originates the world of telecommunications when providers began using virtual private network (VPN) services for data communications. Cloud computing is a new computational model which is mainly based on grid computing.

Cloud Computing provides a environment for resource sharing in terms of ascendance frameworks, middleware's and application development platforms, and business applications. Cloud computing are often outlined as a computing surroundings wherever computing wants by one party are often outsourced to a different party and once would like be arise to use the computing power or resources like information or emails, they will access them via web. This paper is for anyone who will have recently detected regarding cloud computing and desires to grasp a lot of regarding cloud computing.

Cloud computing deals with computation, software, data access and storage services that may not need end-user knowledge of the physical location and the configuration of the system that is delivering the services. Cloud computing is a recent trend in IT that moves computing and data away from desktop and portable PCs into large data centers .

During this paper, we described Cloud Computing and recent trends in Cloud computing and its issues.

Trends in cloud computing-

1. Hybrid Cloud Solutions (Cloud to Cloud and Cloud to On-Premise Connectivity)

a. Cloud to Cloud Connectivity - a number of businesses are not particularly fond of being tied to a single cloud provider, which is why multiple cloud providers are opening up APIs on Platforms for connecting multiple solutions. Opening up APIs is necessary to sync cross-functional and multi-disciplinary process and data management as well as integrating and connecting to systems and tools.

b. Cloud to On-Premise Connectivity - Most enterprises will keep their on-premise solutions and also connect to cloud-based solutions with heavy customization that will best fit their business needs.

Two main reasons for this phenomenon as:

Cost vs. Return on Investment ratios. Complete migration to the cloud is costly and very time-consuming.

Enterprise data and systems have grown over a period and migrating them to the cloud remains an issue for most enterprises.

Although some security solutions are better suited for the cloud, on-premise is still better for network security when it comes to controlling the data flow.

2. Growth in Cloud Services & Solutions (SaaS, Paas, IaaS).

With cloud computing on the rise, it's only natural that the cloud services and solutions will also develop. Bain & Company predicts that Software as a Service (SaaS), where software is licensed on a subscription basis and is centrally hosted. The likes of Google Apps, Salesforce, and Citrix GoToMeeting will most likely continue to represent the largest cloud market.

The Platform as a Service (PaaS) adoption is predicted to be the fastest-growing sector of cloud platforms . PaaS solutions give a platform that allows customers to develop, launch and handle apps in a way that is much simpler than having to construct and continue the infrastructure.

The Infrastructure-as-a-Service (IaaS), which provides virtualized computing resources over the internet. Amazon holds the largest IaaS market share with Amazon Web Services (AWS) and will be competing with other cloud infrastructure services including Microsoft Azure and Google Compute Engine (GCE). the year where Adoption of Enterprise Cloud Services improves; Consumer Cloud Services will skyrocket, Cloud-based File Sharing Services will increase, Collaboration Services will become more familiar, Social Media Services will get democratized and get the highest adoption.

3. Edge Computing on the Rise.

Edge computing, or performing data processing at the edge of the network to optimize cloud computing, will also be on the rise. It is a result of increased usage of internet-connected devices. Edge is require and because it will be required to run the real-time services as it streamlines the flow of traffic from IoT devices and provides real-time local data analysis and analytics.

4. Cloud-Based Container Systems will become Mainstream.

Cloud containers as a service will develop into mainstream because it can provide a better infrastructure security. Also, cloud-based container systems are an option to virtual machines and allow for apps to be deployed in a quick, reliable, consistent and straightforward manner allowing for faster releases of new features and software to run reliably. Furthermore, cloud providers can offer hosted container management services as well as differentiate their platforms from one another through cloud container systems.

5.Cloud Storage and its Multi-Faceted Usage
Cloud storage is getting cheaper — It's the economics of supply and demand   the higher the supply and the lower the demand, the price goes down. However, with cloud storage, not only is there a significant supply, but a high demand too; therefore, cloud storage is not just cheap, but offered for free from certain cloud providers so they can gain market share and collect valuable user data.

Crowd Sourced Storage -in its place of using expensive, slow, and sometimes insecure traditional cloud storage, crowd sourced storage will become an option for people who want to keep the cost low, but still, want to take full advantage of the benefits of the cloud.

Sharing your friends or a strangers' storage will become a common practice and will be used in place of applications like Google Drive or Drop Box .Crowd-sourced cloud storage platforms will be used in building and maintaining large scale applications.
Crowd Sourced Data — Major Cloud players like Google and Amazon are giving away Cloud

Storage for free to crowd source data for big data /analytics and artificial intelligence applications.

Cloud Cost Containment — Cost containment is essential for keeping costs down to only essential expenses to remain within financial targets. The growth of the cloud accelerates as more organizations adopt cloud-based strategies to cut costs. Cloud computing is a long-term cost-cutting IT strategy that reduces infrastructure expenditures and lowering costs while expanding accessibility and productivity.

Cloud Cost Wars —The cloud pricing war between Google and Amazon is based on each organization's attempt to provide the cheapest service and dominate the cloud market. AWS announced its lower prices early this year, and Google introduced Committed Use Discounts (CUD), or as defined by Google, "the ability to purchase committed use contracts in return for deeply discounted prices for VM usage."

ISSUES IN CLOUD COMPUTING

More and more information on individuals and companies is placed in the cloud; concerns are beginning to grow about just how safe an environment it is? Issues of cloud computing can summarize as follows:

1. Privacy- Cloud computing utilizes the virtual computing technology, users' personal data may be scattered in various virtual data centers rather than stay in the same physical location, users may leak hidden information when they are accessed cloud computing services. Attackers can analyze the critical task depend on the computing task submitted by the users.

2. Reliability- The cloud servers also experience downtimes and slowdowns as our local server.

3. Legal Issues- Worries stick with safety measures and confidentiality of individual all the way through legislative levels.

4. Compliance- Numerous regulations pertain to the storage and use of data requires regular reporting and audit trails. In addition to the requirements to which customers are subject, the data centers maintained by cloud providers may also be subject to compliance requirements.

5. Freedom - Cloud computing does not allow users to physically possess the storage of the data, leaving the data storage and control in the hands of cloud providers.

CONCLUSIONS-

This paper discussed the recent trends of cloud computing. It also addressed issues of cloud computing in detail. In spite of the several limitations and the need for better methodologies processes, cloud computing is becoming a hugely attractive paradigm, especially for large enterprises. Cloud Computing initiatives could affect the enterprises within two to three years as it has the potential to significantly change IT.

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